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Agricultural Memorandum No 764

The forecasting of botulism deaths on the Norfolk Broads

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Previous Ag Mems(761,761A), were aimed at the explanation of the severity of deaths of wildfowl from botulism. They used data covering the whole summer, which are available at too late a date to provide the basis for a forecast.

If D_1 = number of days $\geq$ 21°C up to the end of July, E_1-R_1 = difference between calculated evaporation and observed rainfall, April - July then N, the number of deaths expected, can be estimated from

$$\log N = 0.12D_1 + 0.0044\ (E_1-R_1) - 1.58$$

The results were as follows

	D_1	E_1-R_1	Deaths Estimated	Reported
1969	23	170	85	A few dozen
1970	28	273	958	Some hundreds
1971	24	248	246	About 300
1972	7	213	2	Nil
1973	24	160	101	Over 250
1974	15	286	30	Under 100
1975	30	277	1733	2-3,000

Considering that August weather may be critical, the fit is fairly satisfactory, except in 1970 and 1973.

It is unlikely that a closer approach can be made until reliable seasonal forecasts of weather become available.

Any comments or suggestions on this paper should be referred to the author.

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